U.S. Department of Energy
1996 Pollution Prevention Awards Program
Program Description
July 26, 1996

The U.S. Department of Energy (DOE) honored winners of eleven national pollution prevention awards in a ceremony July 10, 1996, in Chicago, Illinois. Associate Deputy Secretary for Field Management Donald W. Pearman, Jr. presented awards to DOE employees and contractors as part of the 12th annual DOE Pollution Prevention Conference. Pearman presented awards signed by Under Secretary Thomas Grumbly.

The awards honored work preventing waste and pollution performed by DOE employees and contractors in calendar year 1995. The awards support an ongoing commitment by Secretary of Energy Hazel O'Leary toward pollution prevention. In a May 3, 1996 memo, the Secretary stated "The Department of Energy pollution prevention strategy is to reduce the generation of all waste streams and thus minimize the impact of departmental operations on the environment."

Awards were presented in eleven categories ranging from solid waste recycling to source reduction to affirmative procurement.

- DOE Headquarters Defense Programs was honored for its work facilitating procurement of ozone-friendly, energy-efficient chillers in cooperation with Systematic Management Services and the General Products Commodity Center of the General Services Administration.

- Four awards were given to DOE operations in Richland, Washington. Five employees at the Pacific Northwest National Laboratory were honored for the laboratory's environmental sustainability communications program. Five employees at the Plutonium-Uranium Extraction (PUREX) Facility were recognized for integrating the goals of waste minimization, risk reduction, and mortgage reduction into ongoing facility environmental restoration activities. Two employees at the Hanford 242-A Evaporator were recognized for modifying the process to recycle a portion of the process condensate effluent, which should generate cumulative savings of $10 million over the projected operating life of the equipment. Two employees of the ICF Kaiser Hanford Company machine shop were recognized for modifying shop processes to save $121,000 annually.

- The Kansas City Plant received two awards. The plant was honored for its success reducing the use and disposal of hazardous chemicals and for its partnership with Hewlett Packard in developing a non-hazardous precision cleaning agent.

- Five employees at the Formerly Utilized Remedial Action Program (FUSRAP) General Motors Site in Oak Ridge, Tennessee were honored for cost-effective, integrated program planning resulting in significant waste reduction and savings of over $1.6 million.

- The Y-12 Plant in Oak Ridge received recognition for its comprehensive solid waste recycling program.

- Two Lawrence Berkeley Laboratory employees in Berkeley, California received an award for their 99% reduction in the generation of tritiated mixed waste in DNA synthesis experiments.

- A special national achievement award was presented to the Albuquerque, Savannah River, and Oak Ridge Operations Offices for their management of a pilot project developing and implementing financial incentives for sites to reduce waste generation.

DOE Operations Offices across the country participated in the awards program, receiving nearly 100 nominations that were evaluated in a two-step judging process. Sixty-seven of those nominations advanced to a second round of judging, from which the final winners were selected.

The awards program was designed to meet DOE pollution prevention incentive and technology transfer goals identified in the 1994 Waste Minimization/Pollution Prevention Crosscut Plan, signed by the Secretary on February 28, 1995. This was the third year of the formal awards program. Federal Environmental Executive Fran McPoland presented awards last year in Knoxville. Deputy Secretary Bill White presented awards at the 1994 conference in Denver.

Award program categories were chosen to support the pollution prevention programmatic activities identified in the 1994 Crosscut Plan and in the 1996 Pollution Prevention Program Plan, signed by the Secretary on May 3, 1996.

The special plaques designed for the awards program were constructed from ground computer circuit boards by the Kansas City Plant in a process developed in conjunction with a Texas-based firm.

The awards program is open to DOE employees and contractors performing pollution prevention work for any DOE site.

1996 DOE Pollution Prevention Awards Program
Abstracts of Nominations Selected for National Awards

Affirmative Procurement Category
"Development of a Basic Ordering Agreement (BOA) for the procurement of ozone-friendly, energy efficient chillers."

Nominees (Submitted by DOE Headquarters):
Roger E. Snyder
Systematic Management Services, Inc
General Services Administration, General Products Commodity Center

Other Participants:
Robert W. Carden
James E. Coyle
Mark B. Ginsberg
John R. Guice, Jr.

Defense Programs and the General Services Administration have developed an affirmative procurement process for replacing chlorofluorocarbon refrigerants. Chlorofluorocarbons destroy the ozone and production is banned. Significant benefits gained by replacing chillers under this BOA include:

- Reducing the use of ozone depleting substances;
- Reducing energy usage by replacing older, inefficient chillers with highly efficient chillers as recommended by the Federal Energy Management program;
- Reducing polluting emissions from the generation of electricity;
- Expediting cost-effective procurements for Federal agencies

Use of the BOA will potentially lead to reductions of 24 million tons of power plant emissions and 6 million tons of chlorofluorocarbons.

Environmental Restoration Category
"PUREX Facility Demonstration - A Waste Minimization Project."

Nominees (Submitted by the Richland Operations Office):
Douglas G. Hamrick
John Hayfield

Waste minimization, risk reduction, and mortgage reduction are primary goals of the Plutonium Uranium Extraction Facility (PUREX) deactivation project. Successes to date include the sale of 187,000 gallons of slightly radioactive nitric acid for reuse as a product; elimination of approximately 200,000 gallons of radioactive rinsate through reuse of tank flush waters; elimination of approximately 60,000 gallons of radioactive waste water through concentration; re-deployment of approximately 3,000 cubic feet of laboratory equipment, 2.5 million pounds of chemicals, batteries, oil, and office supplies; strict inventory and project management controls to minimize wastes; and disassembly and removal from use of twelve HEPA filters, thereby reducing

the total amount of mixed waste generated by 169 cubic feet.

Information Sharing Category
"Environmental Sustainability Program Communications at the Pacific Northwest National Laboratory."

Nominees (Submitted by the Richland Operations Office):
Sandra Cannon
Brooke Hill

No single source of up-to-date information existed at the Pacific Northwest National Laboratory (PNNL) to help the staff of the U.S. Department of Energy and numerous contractors reduce/reuse/recycle office waste, purchase recycled products, and access regulatory information. As a contractor-operated research facility of the U.S. Department of Energy, PNNL developed a centralized pollution prevention communications office as part of the Environmental Sustainability Program (ESP). The ESP communications office inspires employees to perform pollution prevention and supports pollution prevention activities by serving as a centralized source of "how-to," cost savings, and regulatory information.

Integrated Planning and Design Category
"Up Front Planning and Design Provide Savings at the General Motors Site."

Nominee (Submitted by the Oak Ridge Operations Office):
FUSRAP GM Team

Participants:
James Kopotic
Gerry Palau
Joe Wood

A cost-effective program for integrated planning, hazard assessments, waste management, and use of an innovative technology was implemented at the Formerly Utilized Sites Remedial Action Program (FUSRAP) General Motors (GM) site resulting in savings of over $1.6 million. By aggressively looking for opportunities in a number of key areas in the remediation process, waste volumes were reduced from 1,500 cubic yards to 175 cubic yards, wastewater was disposed at a savings of over $20 per gallon, and the impact of the cleanup on ongoing plant operations at the site was minimized.

Outstanding National Achievement Category
"Pollution Prevention Generator Set-Aside Fee Pilot Demonstration."

Nominees (Submitted by the Albuquerque Operations Office):
Jocelyn Siegel
Catherine Schidel
Sherri Johnson

Other Generator Set-Aside Fee Pilot Demonstration Team Members:
Christine Gelles
Ron McHugh
John Marchetti
Bob Fleming
Andy Szilagyi
Kent Hancock

At its February 23, 1995 meeting, the Pollution Prevention Executive Board decided to pilot test a generator set-aside or "chargeback" program to encourage waste generator accountability, promote waste reduction, and provide a limited source of funds for actual pollution prevention implementation projects. The generator set-aside initiative will have significant impact on how sites and waste generators do business. Implementation of the Executive Board directive was delegated to a team lead by the Albuquerque Operations Office. The decision to delegate implementation of such an important national program to the field was a significant expression of confidence. The successes of the team show the confidence was justified.

1) The team has demonstrated the ability of the field to manage a national, headquarters pilot demonstration cutting across DOE program and funding lines while creating a high degree of ownership and responsibility among participants for the success of the program due to their continued active involvement in the process,
2) The team has demonstrated the ability of the field to work together to successfully resolve issues and obstacles including disparate financial accounting structures and waste tracking systems, generator resistance, and determinations of appropriate uses for collected funds.
3) Each of the sites participating in the pilot has been able to design site-specific programs addressing their particular circumstances while maintaining consistency with the overall pilot plan, cohesively merging site-specific requirements with those of headquarters.
4) This pilot demonstration will serve as the template for potential implementation throughout the complex, and has developed different approaches that could be used to set up similar set-aside programs at other sites.
5) Most importantly, this pilot creates a system whereby generators become more accountable for their waste generation, and pollution prevention projects are more easily funded and implemented.

Public Outreach and Partnership Category

"Synergy CCS(TM) Precision Cleaning Agent: A Successful Government/Industry Partnership."

Nominee (Submitted by the Albuquerque Operations Office):
U.S. DOE Kansas City Plant

Participants:
Tom Hand
George Bohnert
Mike Powers

Synergy CCS (TM) is an environmentally derived, surfactant-free, recyclable Critical Cleaning

Solvent. The Kansas City Plant, a Department of Energy facility, formulated the solvent to solve a problem of a small manufacturer. The solvent was further developed and adopted by Hewlett-Packard, and then licensed to a world leader in alternative solvent technology, Petroferm, Inc. *Synergy CCS* (TM) provides a wide range of cleaning capabilities for electrical and mechanical components. Its ingredients are listed by the EPA as "approved" and biodegradable. It is derived from naturally and annually renewable sources, can be distilled after use, and is compatible with most existing cleaning equipment.

Radioactive/Hazardous Waste Recycling Category

"Process Condensate Recycle Project at the 242-A Evaporator."

Nominees (Submitted by the Richland Operations Office):
Dave S. Haring
Shaun P. Biglin

The 242-A Evaporator facility is part of the Tank Waste Remediation System used at the Hanford Site to reduce the volume of radioactive waste stored in double-shell tanks. Filtered raw water was used in the 242-A Evaporator process, contributing to condensate eventually requiring treatment. A modification to the 242-A Evaporator replaced the use of filtered raw water by recycling a portion of the process condensate effluent, reducing both raw water usage and process condensate requiring further treatment. Cumulative savings over the projected operating life of the 242-A Evaporator should exceed $10 million, greatly exceeding the original $230,000 cost of the modification.

Return on Investment Category
"Machine Coolant Recycling at ICF Kaiser Hanford Machine Shop."

Nominees (Submitted by the Richland Operations Office):
Todd Grabner
Candice Marple

During machining processes at the ICF Kaiser Hanford Company machine shop, a hazardous waste stream is created from dirty machine coolant. The stream is designated as a Washington state dangerous waste with WP02 (persistence), D007 (chromium) and D008 (lead) waste codes. As a result there was 13.5 cubic meters of hazardous waste generated per year at a cost of $138,000.

A pollution prevention opportunity assessment was completed. In December, 1994 the company received ROI funding from the Department of Energy, Richland office. A coolant recycling system was selected and installed in July 1995 for a total cost of $61,000. The annual cost savings exceeded $121,000 for an ROI of 188%.

Solid Waste Recycling Category

"Solid Waste Recycling at Y-12."

Nominee (Submitted by the Oak Ridge Operations Office):
Y-12 Plant, Lockheed Martin Energy Systems, Inc.

Y-12 uses a number of techniques to reduce landfill usage. Source reduction of waste streams is performed wherever feasible. Y-12 has also established a goal to achieve total recycling of waste streams such as paper, aluminum, and scrap wood. The Y-12 recycling program was designed to 1) increase the longevity of the Y-12 landfill, 2) reduce costs to Y-12, 3) conserve energy and natural resources, and 4) comply with federal waste minimization regulations. Due to the success of the plant-wide paper and aluminum recycling program, additional waste streams have been identified and targeted for recycling. These streams include coal ash, automotive wastes from the Y-12 garage, fluorescent bulbs, and toner cartridges as well as surplus materials re-routed from disposal to the Y-12 Swap Shop.

TRI/33-50 Category
"Toward Zero Discharge: 33/50 Chemicals Reductions at the Kansas City Plant."

Nominee (Submitted by the Albuquerque Operations Office):
U.S. DOE Kansas City Plant

Participants:
Bryan E. Adams
Gary A. Becka
Mary Anne Benton
George W. Bohnert
Milton G. Bryant

The Kansas City Plant, a major generator of pollution in the Kansas City area, has reduced the releases and transfers of its four EPA 33/50 Program reportable chemicals by 98.4 percent since 1988. This has been accomplished in cooperation with the Defense Programs Design Agencies and the Department of Energy by redesigning processes and substituting less hazardous or toxic materials. As of December 31, 1995, the use of dichloromethane and 1,1,1-trichloroethane has been essentially eliminated. Trichloroethane and toluene usage have been reduced by 99 and 96 percent, respectively.

Zero Generation/Source Reduction Category

"Reduction of Tritiated Mixed Waste by 99% in 1995."

Nominees (Submitted by the Oakland Operations Office):
Mary H. Barcellos-Hoff
Shraddha A. Ravani

The principal investigator and staff scientist nominated for this award worked together in 1995 to

eliminate their use of tritium in DNA synthesis experiments. In 1995, these two researchers began conducting experiments with the non-radioactive Luciferase assay method, which resulted in a 99% reduction of tritiated mixed waste compared to the generation rates in 1994. This effort resulted in savings of radio-isotope purchases, waste generator assistance, waste and chemical management, and treatment costs.

Recycled Paper at the Kansas City Plant
Robert E. Beauchamp
Gregory M. Colletti
Gary R. Haglund

Recycling at the Kansas City Plant
Kansas City Plant

The Chemistry and Metallurgy Research Facility Upgrades Project: Los Alamos National Laboratory
Dennis Basile
Bill Belvin
Al Bridge
Michelle Burns
Theresa Cull
Russ Durrer
Dwayne Ethridge
Cheryll Faust
Joe Gonzales
Juan Griego
John Harvey
Larry Haynes
Kristine Horpedahl

Los Alamos National Laboratory Decomissioning and Environmental Restoration Projects
Larry Byars
Tommy Hernandez

Value Engineering for Waste Reduction in Decomissioning Projects: Los Alamos National Laboratory
Michelle Burns

Chemical Exchange Assistance Program and External Recycling (CHEAPER) at Los Alamos National Laboratory
Michelle Burns

Dual Phased Liquid and Vapor Treatment System: Pantex Plant
Jim Rogers

Rechargeable Batteries: Pantex Plant
Kenny Steward

Digital Photographic Equipment: Pantex Plant
Kevin Brown

Thermal Decontamination of Tritium Contaminated Materials at the Pantex Plant
Tamara Criste

Reuse of Weapon Components for Other DOE Sites: Pantex Plant
Mike Lee

Solvent Substitutions: Pantex Plant
Kevin Brown

Recycling Program at Pantex Plant
Kenny Steward

Recycling of Asphalt and Concrete at Pantex Plant
Mike Luhman

Toner Cartridge Recharging: Pantex Plant
Kenny Steward

Waste Reduction Information Exchange: Pantex Plant
Tamara Criste

Lamp Replacement and Recycling at Sandia National Laboratory-New Mexico
Max Saad

Radioactive/Hazardous Waste Recycling at the Pinellas Plant
Angela D. Bolds

The Los Alamos National Laboratory Pollution Prevention Reporter
Greg Erpenbeck

Type A Disposable Molecular Sieve Bed (DMSB) Redesign: Princeton Plasma Physics Laboratory
Robert J. Cislo
Scott B. Larson

Dedicated Low-Flow Ground Water Monitoring Pumps: Princeton Plasma Physics Laboratory
Robert S. Sheneman

Liquid Scintillation Vial Crusher at Princeton Plasma Physics Laboratory
Robert J. Cislo

Design of Alternate Cleaning Systems for Ultra-High Vacuum System Components: Brookhaven National Laboratory
Conrad Foerster
George Goode

Brookhaven National Laboratory Solid Waste Recycling Program
Fred Altrui
Claire Appleton
Oscar E. Blevins
Kathy Boggi
Diane Carlson
David Comstock
April Donegain
Joel Errante
Tony Fuoco
Dick Giesler
Donna Grabowski

Conversion of the Experimental Boiling Water Reactor to a Waste Storage Facility: Argonne National Laboratory
Chuck Fellhauer
Gail MacMillan

Airlie House Pilot Pollution Prevention Technology Transfer Project: Argonne National Laboratory
Randy Lansberg
Jennifer McHenry

WMin and P2 Initiatives Associated with the Building 212 H-Wing Restoration Project: Argonne National Laboratory
David Eichholzer
Kevin Klosowski

Argonne National Laboratory Building Maintenance and Crafts Glycol and Equipment Oil Conservation
Richard Pagel

Wmin/P2 at Argonne National Laboratory's Vehicle Maintenance Facility (Building 46)
James Huggins

WMin/P2 Initiatives within Argonne National Laboratory Boiler House Operations
Allen Carbaugh

Getting the Word Out: DOE's Leadership Role in Federal Agency Pollution Prevention: DOE Headquarters
Jane Powers

DOE High Return on Investment Team: DOE Headquarters
Christine Gelles

DOE's Pollution Prevention Information Clearinghouse (EPIC): DOE Headquarters
Arnold Edelman
Susan Henson

Biological Treatment of Produced Water at Naval Petroleum Reserve No. 3
John Brodrecht
Clint Edwards

Cardboard Recycling at Lawrence Livermore National Laboratory
Lawrence Livermore National Laboratory

Saving Money in Environmental Restoration at Lawrence Livermore National Laboratory
Lawrence Livermore National Laboratory - Environmental Restoration Program

Green Team Culture Change and Community Outreach: Lawrence Berkeley Laboratory
Shaun Fennessey
Anne Kumaranayagam

On-Site Vegetation Management: Lawrence Berkeley Laboratory
Robert Berninzoni

DOE and TVA Combine Resources to Plan Waste Reductions: Oak Ridge K-25 Site
John Dries
Gerald Melton

Recycling of Radioactively Contaminated Metal from DOE Uranium Enrichment Plant: Oak Ridge K-25 Site
Jeff Gilbert
Suzanne Herron

FUSRAP In-situ Radiological Survey of Underground Piping
Marty Keller
James Kopotic

FUSRAP Rock Crusher - Recycling Material in Environmental Cleanups
James Kopotic
Gerry Palau

Innovative Approach to Design and Remedial Action at the Chapman Valve Site
Jerry Blust
Marty W. Davis
Jim Jones

Preparation and Distribution of the publication *Pollution Prevention Guide for Oak Ridge Reservation Employees*
Belgin D. Barkenbus
Janet Michel

In-Line Solvent Recycling at the Pacific Northwest National Laboratory
Scott A. Clauss
Eric W. Hoppe

Expanded Office Recycling Program at the Pacific Northwest Laboratory
Sandra Cannon
Darrick Dietrich

Affirmative Procurement Practices at ICF Kaiser Hanford Company
Ann Langevin

Recycling Activities at ICF Kaiser Hanford
ICF Kaiser Hanford Environmental Services South
Rodney Bell
Ed Lamm
Ryan Ollero

Partnering with the City of Richland to Expand City Drop Box Recycling Program: Hanford Site
Kim McDowell

Software Recycling at the Hanford Site
Kim McDowell

Chemical Commodity Management Center
Savannah River Site

Asset Recovery Team
Savannah River Site

Tritium Facilities "Go For the Green" Housekeeping Day
Savannah River Site

Partners with Commercial Nuclear Plants
Savannah River Site

Hazardous Waste Reduction in Environmental Restoration
Savannah River Site

Solid Waste Recycling Initiatives
Savannah River Site

U.S. Department of Energy
Pollution Prevention Awards program
Round Two Judges

Team #1
Information Sharing, Public Outreach and Partnership categories

Othalene Lawrence - Team Leader
Angelia Adams
Priscilla Halloran

Team #2
Radioactive/Hazardous Waste Recycling, Solid Waste Recycling, Affirmative Procurement categories

Stephen Warren - Team Leader

Team #3
Environmental Restoration, Zero Generation/Source Reduction, TRI/33-50 categories

Robert Fleming - Team Leader
Carol Parker
David Sarokin

Team #4
Integrated Planning and Design, Return on Investment categories

Stuart Altman - Team Leader
Pete Ritzcovan
Thomas Sachar